4 November 1967

NOTE FOR: Mr. Duckett

1. With increasing frequency I find conventional thinking regarding personnel vs. capital cost of equipment leading us down an improper, and potentially expensive path. I think FMSAC's message routing proposition tends to illustrate the point.

2. Let's suppose that message routing normally required three people each making a salary of $10,000 a year, and suppose further that these three people are replaced by a machine whose maintenance is performed by a technician also making $10,000 a year. The difference in salaries then is $20,000 per year. How expensive can the machine be before there is a loss in economic benefit? Typical remarks at the moment tend to be that an expensive computer has replaced a couple of not very expensive employees -- ha ha!

3. In fact, however, the real cost of these two employees is considerably greater than their salary. Let's suppose it is $20,000 a year each -- obviously then there is an economic benefit if the equivalent machine rental costs do not exceed $40,000 a year or if the depreciation of a capital investment is similarly considered. In this case, then, if computers rent for 10% of their initial capital cost, anything less than a $400,000 computer does make sense.

4. I suspect I am going to be up to my ears in this sort of thing in the Communications Study Group, and it is probably the kind of thing with which we ought to be familiar in racking up and justifying total project costs, including associated R&D. What I would like to see is a chart which equates capital costs or annual rentals to employee's salary (perhaps this is a simple linear equation). To have acceptance there must be some agreement on the costs, methods, etc. If you have no objection I propose to work this out with the PPB people hopefully arriving at something similar to the attached chart. If you wish to take a quick look first within the Directorate, I could work with [redacted]s people, but I suspect the needed data probably lies in PPB and Personnel.

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5. OK?

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